Digital Games about the Materiality of Digital Games

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Abstract

This article investigates the potential for digital games to advance environmentally responsible attitudes by attending to their own material conditions, since the production, consumption, and disposal of games and the platforms on which they run enact ecological harm. I examine how Tomorrow Corporation's puzzle game *Little Inferno* (2012) and Molleindustria's political mobile game *Phone Story* (2011) address their own participation in ecological harm through rendering visible the very games themselves being played as material commodities. In doing so, they acknowledge their own complicity as well as that of their players in existing processes of environmental degradation. Moreover, both games challenge conventional expectations of fun as harmless or inconsequential, since this environmental destruction results from digital entertainment. I argue that digital games advancing environmentally responsible attitudes must address the ecological devastation tied to their materiality as well as support players in accepting responsibility for and remedying the harm players enact. Consequently, digital games of environmental responsibility must also question the dominant mode of fun that drives ecological devastation by reminding us that we dwell in a world where we need to be responsible for the fun we choose to have.

Keywords: Digital games, materiality, responsibility, dwelling, fun.

Resumen

Este artículo investiga el potencial de los juegos digitales para fomentar actitudes responsables hacia el medioambiente atendiendo a sus propias condiciones materiales, ya que la producción, el consumo, y el desecho de los juegos y de las plataformas en las que funcionan representan daño ecológico. Examino cómo el puzle *Little Inferno* (2012) de Tomorrow Corporation y el juego político para móvil *Phone Story* (2011) de Molleindustria abordan su propia participación en el daño ecológico haciendo visible el que los juegos en sí mismos sean productos materiales. Al hacerlo, reconocen su propia complicidad, así como la de los jugadores en los procesos de degradación medioambiental. Además, ambos juegos desafían las expectativas convencionales de la diversión como algo inofensivo e intrascendente, ya que esta destrucción medioambiental resulta del entretenimiento digital. Argumento que los juegos digitales que promueven actitudes responsables hacia el medioambiente deben abordar la devastación ecológica vinculada a su materialidad, así como animar a los jugadores a que acepten su responsabilidad y corrijan el daño que hacen. En consecuencia, los juegos digitales con responsabilidad medioambiental deben también cuestionar la forma dominante de diversión que conlleva devastación ecológica recordándonos que vivimos en un mundo en el que necesitamos ser responsables de la diversión que elegimos tener.

Keywords: Juegos digitales, materialidad, responsabilidad, morada, diversión.

Much of the scholarship at the convergence of game studies and ecocritical inquiry investigates how digital games can reinforce as well as reimagine existing environmental politics. In examining digital games as cultural texts, scholars have shown that digital games can reinscribe persistent attitudes detrimental to the environment, such as treating nature as a conquerable resource in Sony Online Entertainment's fantasy-themed multiplayer online role-playing game *EverQuest* (1999) (Stumpo) and in Zynga's farming simulation game *Farmville* (2009) (Chang "Back"; Flanagan and Nissenbaum 26-29). Although they can reinforce environmentally harmful attitudes, many scholars have also argued that digital games can productively intervene in ecological issues, including renewable energy (Abraham), urban sustainability (Springer and Goggin), entanglements of nature and technology (Chang "Games"; Bianchi; Bohunicky), and human-animal relations (Attebery).

While digital games, as John Parham contends, "can contribute both to a pragmatic understanding of and instruction in ecological issues such as sustainable development or energy supply and to constituting or shaping environmental or ecological awareness," addressing digital games as physical technologies underscores how the resource and energy demands involved in their creation, circulation, operation, and disposal pose significant problems for environmental sustainability (205; see also Hageman). Alongside work that explores the representational content and textual form of digital games through ecological concerns, other scholarship investigates the material and socioeconomic dimensions of digital games as commercial technologies, including systems of resource extraction, labor exploitation, and electronic waste.[1] James Newman, for instance, demonstrates how conventional digital games industries actively produce obsolescence in favor of incessant newness (Newman). Nick Dyer-Witheford and Greig de Peuter, similarly, foreground the damaging environmental harm and labor exploitation central to the life cycle of computing technologies by identifying digital games as paradigmatic commodities in the global networks of empire (222-224).

From politically and physically exploitive conditions surrounding coltan mining in the Democratic Republic of the Congo to hazardous e-waste recycling operations in Ghana and China, encounters with Microsoft Xboxes, Sony PlayStations, and mobile phones by consumers in the West constitute only a segment of these commodities' lives. The full life cycle for computing devices involves processes of extraction, production, consumption, obsolescence, and disposal that enact harm to sites and subjects all over the globe. Moreover, the operation of digital games—playing and having fun with them—is also environmentally taxing as running computing platforms requires infrastructures embedded in petroleum energy cultures (Wark; Milburn; Elerding; see also LeMenager; Zehner). Consequently, that digital games otherwise interested in ecological responsibility are themselves contributors to environmental destruction and yet may fail to recognize and address that harm represents a critical limit in their capacity to advance ecologically mindful politics.

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[1] Such studies of digital games joins a larger body of research examining the environmental conditions that undergird digital media technologies more broadly (Blevis; Mantz; Maxwell and Miller; Taffel; Gabrys; Parikka; Cubitt; Starosielski and Walker).

In this article, I investigate the potential for digital games to address their own material conditions in advancing environmentally responsible attitudes. If digital games are to contribute to ecological sustainability, they must be self-reflexive of their participation in ecological harm and signal to players their complicity in that harm as part of the cost of playing and having fun. I examine two digital games—Tomorrow Corporation's puzzle game *Little Inferno* (2012) and Molleindustria's political mobile game *Phone Story* (2011)—that not only explore how making the devices for running as well as powering digital games inflicts ecological harm but also dramatize how players can act responsibly as a result of recognizing and accepting blame. I argue that digital games that advance ecological sustainability as a central value should both attend to their material conditions, their creation, operation, and disposal, as well as provide suggestions for what can be done to act more responsibly and do otherwise. Through my discussion of both game titles, I contend that such environmentally conscious games must also challenge prevailing constructions of fun, exploring how games can address player complicity in environmental harm resulting from having fun with digital games.

Digital Games and Environmental Responsibility

Approaching digital games as symbolic texts without attention to their material existences as commodities, even if relevant to ecological responsibility, ignores that playing digital games is itself implicated in environmentally damaging processes. For instance, both digital games and the computing platforms on which they run reinforce designed technological obsolescence through shared logics of upgrading, accumulation, and novelty that encourage consumption and result in waste, such as digital character upgrades and physical device upgrades (Short). If, as Alenda Y. Chang contends, "games that call our attention to environmental states and shifts, and to our implication in those processes, promise a new kind of gameplay challenge, one that would deliver the deathblow to the pernicious myth of a free and ever-abundant Nature while establishing a new level of consciousness in player experience," such games must address reflexively their material existences to be more environmentally responsible ("Games" 61). According to Colin Milburn, games most interested in environmental responsibility must address how playing digital games is itself ecologically harmful. Games of environmental responsibility, as one of the modes that Milburn identifies in how digital games can frame environmental harm, "attend to their own involvement in the networks of the energy economy, while also drawing attention to players' culpability in enjoying media technologies that pose so many risks to the environment" (212). Milburn asserts that games of environmental responsibility hold the most promise for advancing ecological principles.

While a title like Greenheart Games' business simulation game *Game Dev Tycoon* (2012) recognizes games as commodities, however, it does so only by perpetuating the conception of digital games as ostensibly immaterial, focusing on the production of software as players manage a game development business. *Game Dev Tycoon* does little to highlight the material conditions of computing technologies that are required to

create, distribute, and play digital games, except for representing that computing platforms change over time and that such changes merely impact what software can be developed. Even though games are treated as commodities in *Game Dev Tycoon*, there is no discussion of their ecological costs and, thus, no sense of environmental responsibility in the creation and consumption of digital games.

In elaborating on games of environmental responsibility, Milburn discusses two key examples: Dingo Games' top-down arcade-style collecting game series *Tasty Planet* (2006-2010) and Team Ico's open world action-adventure game *Shadow of the Colossus* (2005). In both titles, players wreak environmental harm in order to complete the game successfully, to have fun and satisfy the games' central objectives. *Tasty Planet* and its sequel *Tasty Planet: Back for Seconds*, for example, require players to direct a grey goo, a blob of nanotechnology, in a feedback loop of growth and consumption by devouring larger and larger objects in the world. This progression continues until the player consumes the entire planet and other celestial bodies. Because the grey goo is a product of techno-scientific work, Milburn argues that "the game presents an allegory of technological consumerism and the environmental impacts of our cultural appetites, the desire to guzzle more and more resources in order to grow, develop, expand" (212).

Players also harm the environment in *Shadow of the Colossus* as they control a solitary adventurer named Wander in a vast land uninhabited by humans. Playing as Wander requires killing and, consequently, rendering extinct sixteen colossi, who are not only massive creatures but also suggested to be "manifestations of the environments in which they live" (Milburn 215). While the game does not explicitly frame the killing of the colossi as inherently malicious at its onset, killing the colossi is tied to the overarching goal of resurrecting Wander's beloved Mono. Playing the game requires players to kill and to recognize themselves as responsible for that killing, the cost to achieve their primary objective.

I identify an ethical thematic of blame as the source of responsibility central to this mode. If games of environmental responsibility require players to recognize that they are already implicated in ecological harm in choosing to play, then they must recognize that they are to blame for that harm. Games within the mode of environmental responsibility foster what Miguel Sicart defines as ethical gameplay, play experiences wherein the rules or objectives of the game enable moral reflection from players (24). Since playing and winning the game are inextricable from inflicting ecological damage, games of environmental responsibility require players to harm the in-game environment and to reflect on their complicity in that harm. Player complicity describes when players abide and operate within the ethical logics of the game and, thus, becomes an opportunity to interrogate the nature of those logics through play (Sicart 22). Players accept the logic of winning the game only for the game to demonstrate that such logic is ultimately incommensurable with environmental responsibility.

Games of environmental responsibility represent direct inversions of games of environmental discipline, games that Milburn suggests frame environmental destruction

as enacted by eco-criminals perpetrating ecological violence (206).[2] In games of environmental discipline, players typically bring eco-criminals to justice, such as when players as Samus in Retro Studio's science fiction adventure game trilogy *Metroid Prime* (2002-2007) investigate the origins of the mutagenic substance that contaminates the planet of Tallon IV and subdue the Space Pirates seeking to exploit it. In games of environmental discipline, ecological harm originates outside of player control, rendering "games of environmental discipline [as] actually incapable of addressing their own connections to circuits of pollution" (Milburn 207).[3] This inability for games of environmental discipline to recognize their own contribution to ecological harm demonstrates a significant limit to their potential in advancing ecological politics mindful of the material conditions of games themselves. Instead of neutralizing eco-criminals as in games of environmental discipline, players in games of environmental responsibility are themselves the eco-criminals whose in-game fun and successes necessitate ecological destruction—including playing as the grey goo voraciously devouring everything or as Wander slaying the colossi.

In discussing how players of *Shadow of the Colossus* are responsible for the harm they inflict on the colossi, Milburn also notes how a sense of responsibility arises from a sense of care. To explore the immense game world, players must cooperate with their horse companion Agro. While conventional game controls allow direct manipulation of the game's protagonist Wander in the game world, the change in input and interface schemes when riding Agro suggest that players do not directly control the horse but must negotiate with it through Wander as Wander would a sentient mount. As Milburn argues, players "develop a haptic and emotional relationship with Agro, in that maneuvering the horse with the PlayStation controller is a process of coaxing and constant care. It becomes the condition for love: a commitment to the nonhuman other" (216). This kinship with Agro as a companion species—an animal other with whom humans participate in mutually transformative embodied encounters—is heightened when, in the course of the game, the loyal horse sacrifices itself for the sake of Wander (Haraway, *The Companion* 2-3; Haraway, *When* 134). While care and intimacy of others can "animate our capacity to respond," as Milburn asserts, *Shadow of the Colossus*' construction of this capacity requires the larger narrative context of player blame for environmental harm, juxtaposing the murdering of the colossi against the altruistic death of Agro as costs for the player's success (212). The kinship with Agro develops in pursuit of the ecological harm that players must inflict to achieve the main objective of the game: to kill the colossi in order to resurrect Mono. Agro's sacrifice for the player as

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[2] Milburn draws on Michel Foucault's theorization of discipline as a mode of power to conceptualize how such games frame environmental harm (Foucault).

[3] Milburn identifies games of environmental control as another limited approach for addressing environmental degradation, where players regulate environmental conditions through models of interrelated systems and processes. Milburn draws on Gilles Deleuze's theorization of control as a mode of power to describe how games including environmental management simulators—for example, Chris Crawford's *Balance of the Planet* (1990), Maxis' *SimEarth* (1990), and Red Redemption's *Fate of the World* (2011)—represent environmental harm (Deleuze).

Wander highlights the manifold acts of killing and death performed in the service of care and love as well as such acts that could have been avoided.

Key to games of environmental responsibility is player recognition of their complicity and acceptance of their blame in ecological harm caused by playing, extending the harm they enact in the virtual game world to correlates beyond the screen. This recognition of blame and subsequent responsibility suggests the potential to do otherwise, to avoid or minimize harm.[4] As Milburn argues, "Responsibility emerges in responding to the game, recognizing the lethal dimensions of having a good time. And so, for some players, the real game becomes how to play otherwise" (214). Through examining their comments in online discussion threads about *Tasty Planet* and *Shadow of the Colossus*, Milburn demonstrates how some players not only share in their recognition of blame for ecological harm but also how they seek more responsible ways of playing to minimize that harm (214). Such conversations outside of the game among players demonstrate how ethical gameplay can encourage players to "[engage] with the very consequences of the act of play, within and outside of the game world" as they negotiate with the game's ethical systems themselves, including the attribution of blame (Sicart 80). Accepting blame, after all, also functions as the accepting of responsibility, both for what has been done and for what is to be done to repair, resolve, and care for the situation.

Having Fun with the Materiality of Digital Games

I now turn to examine Tomorrow Corporation's puzzle game *Little Inferno* (2012) and Molleindustria's political mobile game *Phone Story* (2011), two games of environmental responsibility that show not only how players are responsible for environmental devastation related to digital games as material technologies themselves but also how players can act on that responsibility. I consider how games of environmental responsibility must negotiate the politics of fun as they highlight the ecological costs of having fun with digital games. As Bonnie Ruberg argues, commonplace attitudes toward games often expect that games are, above all else, supposed to be fun and only fun (109). These expectations of fun function to both reinforce particular acceptable means of creating and consuming games within a normative conception of pleasure, enjoyment, and empowerment as well as suppress political critiques of games by suggesting that games are only just for fun (111). As an intervention, Ruberg articulates "no-fun" as an aesthetic framework that explores the expressive capacities of games as a form through refusing the expectations of conventional and commercial forms of normative fun (Ruberg 115-117).

Both *Little Inferno* and *Phone Story*, I suggest, explore the contours of no-fun by interrogating the environmental harm of having fun with digital games and investigating the cost of producing and playing with digital devices. While *Little Inferno* parodies the carbon economy that powers digital technologies by having players repeatedly burn

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[4] Donna Haraway articulates responsibility as arising from subjects who can respond, who can make choices, as opposed to subjects who can only react, who have no capacity to choose (*When* 78).

objects as the game's driving mechanic for fun, *Phone Story* frustrates conceptions of inconsequential and harmless fun by directly implicating players in the violence enacted in the life cycle of mobile computing technologies through a series of short and simple mini-games. Their differing approaches to framing how the fun of digital games performs ecological harm demonstrate how games of environmental responsibility must explore ways to interrogate the constitution of fun itself, since there are environmental and social costs to having any kind of fun with digital games.

Little Inferno

Tomorrow Corporation's *Little Inferno* questions the cost of having fun with digital games by distilling the burning of fuels to power digital games into the game's repetitive core mechanic. *Little Inferno* requires the player to burn objects in the eponymous product they have recently purchased to solve a series of combination puzzles (see Figure 1). Purchasing objects from catalogs, such as a pirate doll, a model of the moon, a toaster, etc…, and burning them in different combinations allows the player to advance through the game, since the player is tasked to solve puzzles by burning specific sets of objects together to satisfy particular thematic hints. For example, to solve the "Cornflakes COMBO!" requires setting both an ear of corn and a box of cereal on fire (See Figure 2). As objects burn, they not only animate and interact with other objects—an ear of corn pops into popcorn, a battery explodes, and a bus of children generates screams of terror—they also produce Tomorrow Bucks, the game world's currency, which the player collects in order to purchase additional objects to burn in a feedback cycle of consumption and combustion.

Figure 1: Initial view of the player's Little Inferno at the start of *Little Inferno*.

Figure 2: "Watching You COMBO!" puzzle solved by burning a television and a camera together in *Little Inferno.*

The Little Inferno as a product in the game allegorizes digital computing devices both as sources of fun that require the burning of fuels to use and as major contributors to anthropogenic climate change. Over the course of the game, *Little Inferno* reveals to the player that they have been an eco-criminal who has inflicted harm on the environment in order to play all along. Throughout, the player intermittently receives letters from three non-playable characters who inhabit the game world: Miss Nancy, the figurehead of Tomorrow Corporation that produces Little Infernos, Sugar Plumps, the player's next door neighbor, and the Weatherman, the source of climatological information (see Figure 3). Together, the correspondence from all three reveals that the world outside the player's home has been cold for years, a bleak consequence of the widespread use of Little Inferno devices and their resultant ash occupying the atmosphere (see Figure 4). Sugar Plumps muses, for example, that "it seems like everyone has one [a Little Inferno] these days," while the Weatherman reports from his hot air balloon above the city that there is "chimney smoke… and smoke stacks… as far as the eye can see!" In requiring the player to burn objects to play the game and recognize the climatological devastation to this virtual world, *Little Inferno* parodies the petroleum and carbon energy industries that supply the electricity demanded by computing devices running digital games as well as adversely impact atmospheric conditions. *Little Inferno* suggests that the player is to blame for their contribution to the endless winter resulting from their fun.

Figure 3: Letter from Sugar Plumps, the principal neighbor in *Little Inferno*.

Figure 4: View of the cold and bleak world outside the player's home in *Little Inferno*.

A refrain of "that can't last forever" recurs throughout the correspondence with the three primary non-playable characters, linking the Little Inferno, digital games, and climate change together. Miss Nancy, for instance, concedes that Little Inferno "can't last forever," which references both playing a game with the Little Inferno as well as the social and environmental processes that enable that playing. Sugar Plumps uses the same phrase to refer to the nonsensical cycle of burning objects for Tomorrow Bucks to buy more objects to burn, questioning the rampant logics of collection and accumulation that Steven E. Jones identifies as central to digital games broadly, whether collecting items, currency, or score points (55). Although the Little Inferno product resembles a brick fireplace, the player does not incinerate objects for warmth—or rather, any warmth it generates is functionally irrelevant to the player—despite a world growing increasingly colder. The only intended use of the Little Inferno is to burn objects for to generate more currency in order to purchase and burn even more objects in order to solve puzzles. Both Miss Nancy's and Sugar Plumps' uses of "can't last forever" call into question the sustainability of burning objects to fuel the fun of digital games as well as of the generation of wealth predicated on that process.

Sugar Plumps eventually becomes a victim of a house fire resulting from her Little Inferno device malfunctioning. The Weatherman, in reporting this event, writes that "a house has burned down… another resident lost…," suggesting that others, like Sugar Plumps, have succumbed to the dangerous fires of Little Infernos and that others will befall the same fate. In his own use of "that can't last forever," the Weatherman describes the current climate conditions: "The snow's been coming down faster and faster… every day, colder than the last! That can't last forever! Heh heh!" The facticity of his use of that phrase, however, becomes unclear, since the unknown possibility of undoing ecological damage suggests that the increasingly cold climate could last indefinitely.

Little Inferno, however, shifts in play style near the end of the game. After completing the final combination puzzle, the player's own Little Inferno begins to malfunction before destroying their home. The camera then transforms from a first-person view of the Little Inferno device to a third-person view that enables the player to see their character in the virtual world for the first time (see Figure 5). Until this point in the game, the visual focus has been on the Little Inferno—the fetishized commodity—without representation of the player or much else of the world beyond the product. Freed from the rapt attention placed on the Little Inferno, the player becomes capable of moving about the city they inhabit (see Figure 6). The player now explores the world outside their home and investigates the production of Little Infernos by tracing them back to the Tomorrow Corporation headquarters, witnessing the cost of all of their fun.
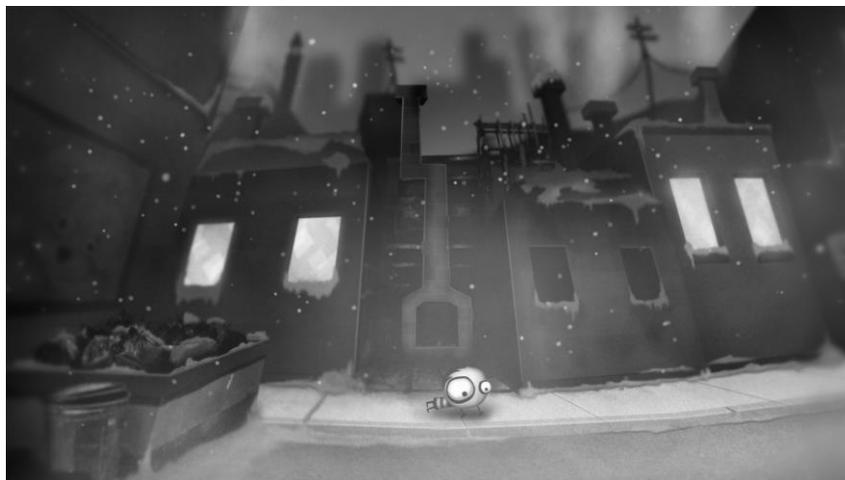

Figure 5: First view of the player's in-game character after their house burns down from a malfunctioning Little Inferno in *Little Inferno*.

Figure 6: Exploring the city in which the player lives in *Little Inferno*.

I suggest that this marked shift in gameplay and in visual design reflects a shift in the framing of the player, from single-minded consumer and unwitting eco-criminal into exploratory investigator of the larger social and ecological conditions of which they are complicit in causing. In this exploration of the world beyod the Little Inferno, the game argues that the player of digital games must not only understand but also actively learn how their playing, their fun, is embedded in obfuscated and ignored arrangements, processes, and systems that enact environmental harm. I argue that this responsibility is an invocation to dwell, to recognize the dwelling that takes place in the world beyond the limits of the game—both the world outside of the Little Inferno entertainment device within the game and the world outside of the *Little Inferno* game title itself. In his study of late twentieth- and early twenty-first-century U.S. imagination of environmental disaster, Frederick Buell advocates adopting the metaphor of "dwelling in crisis" to understand contemporary conditions of environmental risk. For Buell, dwelling demands investment, care, and responsibility, because:

> Giving way to disinformation, turning over responsibility to distant authority, and deciding that one's environment is terminal and therefore to be abandoned are all hard to do if one internalizes the metaphor [of dwelling in crisis]. One knows one's dwelling all too well to be disinformed; one is too locally and intimately touched to hand all responsibility to an outside authority; and one knows that no other credible refuge exists. (205)

The player of *Little Inferno*, as they become visually represented on screen, escapes the narrow view of their Little Inferno to see the larger world in which they are embedded, an opportunity to do otherwise than simply play with their Little Inferno.

Little Inferno suggests hopeful possibility in the advice of Sugar Plumps, who is revealed to be alive and well, and of the Weatherman at the end of the narrative to leave home—encouragement to inhabit and dwell in the greater environment. While *Little Inferno* operates predominantly in the mode of environmental responsibility by framing the player as an eco-criminal, however, the game's ending ultimately curtails its potential for encouraging environmental responsibility, since it closes with a scene of escape from the responsibility of ecological devastation. During the player's face-to-face

encounter with Miss Nancy at the Tomorrow Corporation headquarters, Miss Nancy comments on the current weather conditions and the future trajectory of the city: "Every day, colder than the day before. That can't last forever!" Because of the increasingly bleak weather, Miss Nancy's optimistic use of the refrain "that can't last forever" is a lie, since she explains that the city will eventually slow down until it freezes. As she prepares to leave to enjoy life elsewhere, Miss Nancy rejects blame by claiming that "it's nobody's fault. We can't control the weather." Her refusal to accept blame and take responsibility for remedying the environmental harm done signals her refusal to dwell. The player, too, leaves at the close of the game with the assistance of the Weatherman, as the game provides no possibility to stay and remedy the harm done. Their flight from the virtual city within *Little Inferno* instead renders the player no different than Miss Nancy as they escape the city as fugitive eco-criminals searching for another home, shirking responsibility to dwell in and care for the one they have already ravaged (see Figures 7 and 8).
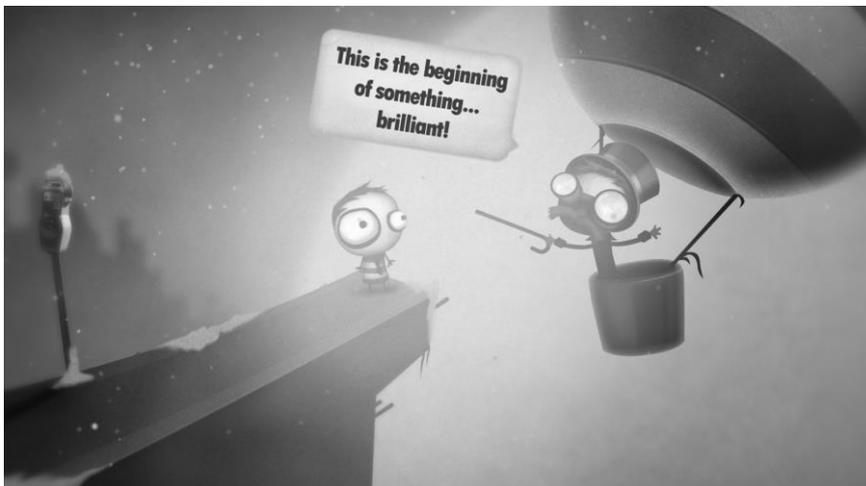

Figure 7: The Weatherman offers the player escape from the freezing city in *Little Inferno*.

Figure 8: The player leaves the city in the Weatherman's hot air balloon in *Little Inferno*.

Little Inferno explores the limit of how fun burning things for entertainment is, parodying this logic to its excess while recognizing the appeal of such fun. The game lulls the player into a seemingly harmless activity done just for fun before showing their complicity in the grave costs of that amusement. *Little Inferno*'s approach to the environmental harm of digital games acknowledges that digital games are fun and enrapturing, but this fun is both what is appealing about games and also what partially masks or elides the costs of such fun. While many reviews indicate that players recognized ecological principles as central to the game, many players also demonstrated that the fun of the burning mechanic entirely eclipsed *Little Inferno*'s interest in engaging environmental ethics. Steam user "King of evil Disco," for instance, recommends the game because "it brings you joy while playing it. And that's all you need to know" (King of evil Disco). Their comment fixates on the fun of the game at the exclusion of all else, especially of recognizing or addressing the costs and consequences of such fun.

For other players, their reviews indicate that not only did they miss the game's ecological critique but they are instead motivated to continue playing the game and, subsequently, enacting further environmental harm by having more fun. Enamored of the game, Sepp Schekelhuaba admits, "I play this every year during the christmas [sic] time. It's such a lovely and cozy game, I love it <3" (Sepp Schekelhuaba). Dorkasorus, similarly, writes that "Little Inferno is such a cute little story, it will make you want ot [sic] play it more and set more things well.. [sic] on fire. Let's be honest here, it will get you hooked" (Dorkasorus). Both of these comments underscore that rather than prompting reevaluation of the environmental harm enacted by playing *Little Inferno* some players instead become engrossed by the fun of it all.

In arguing that contemporary US life already dwells in crisis, Buell warns that the potential to care, investigate, and defend in response may instead lead to what he describes as "domestication within crisis" by accepting and adapting to conditions of risk (204-205). In its name, *Little Inferno* subverts the suggestion of containable disaster. The game itself emphasizes that no inferno, fire, or combustion is insignificant if it contributes to climate change. *Little Inferno* models how one should become conscious of environmental degradation by dramatizing the need to recognize and investigate how all digital devices are fundamentally little infernos.

But as a game that interrogates the cost of fun through enabling fun itself, *Little Inferno* also demonstrates how presenting ecological harm as fun through games of environmental responsibility may enable domestication within crisis. As one player, for instance, admits: "Sure it's a commentary on the sobering reality of Global Warming, radical weather shifts caused by it, and rampant consumerism, but dangit, [sic] burning things is too much fun!" (OneScoop). This final concession that "burning things is too much fun" captures the tension of simultaneously recognizing the serious environmental and social harm of digital games while still wanting to enjoy them.

Phone Story

Unlike *Little Inferno*, Molleindustria's mobile phone game *Phone Story* refuses to appear harmlessly fun from the beginning as the game explicitly describes the violence enacted by the production of mobile phones. Instead of inconsequential fun, *Phone Story* foregrounds the cost of playing *Phone Story* and explores the harm, blame, and responsibility around mobile phones through direct address of the player and their complicity as a consumer. *Phone Story* presents itself as a literal biographic narrative detailing the life of the physical phone device on which the player of the game is playing (see Figure 9). Upon its release, *Phone Story* drew media attention for its unapologetically political objective of critiquing mobile phones and their associated systems of violence ("Phone Story - Android/Iphone Game by Molleindustria") as well as being banned by the Apple apps store within a few hours of its release in September 2011 (see Figure 10) ("Phone Story - Banned"; Lien).
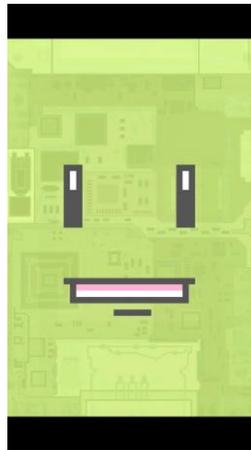

Figure 9: *Phone Story* addresses the player as a consumer of mobile phones by having the anthropomorphized phone address players directly.

Figure 10: *Phone Story* references Apple and their iPhones heavily, parodying the iconic brand with a store topped with a pear-shaped logo.

Phone Story consists of a series of four mini-games that highlight particular locations and harmful processes in the global life of mobile phones: coltan mines in the

Democratic Republic of the Congo, manufacturing plants in China, retail stores in the U.S., and e-waste recycling centers in Pakistan. In traveling through these various global locations, *Phone Story* explains to the player how they are already complicit in processes of environmental degradation, labor injustice, and military violence central to the conventional digital phone production, consumption, and disposal pipeline not only by playing the game but in owning a digital phone altogether. During each mini-game, the narration describes the forms of violence in which the player is complicit by tasking them to perpetrate that violence to advance through *Phone Story*, revealing the extent of their eco-criminality as the game progresses. The first mini-game, for instance, requires player to direct armed military agents who force exhausted and enslaved children to mine coltan in the Democratic Republic of the Congo (see Figure 11). In another stage, the player sorts out e-waste for recycling through crude methods that generate a range of environmental toxins for the local salvage workers in Pakistan (see Figure 12).

Figure 11: The player must control armed soldiers to coerce enslaved children to mine coltan in *Phone Story*.

Figure 12: The player generates toxins that affect recycling workers' health and environmental conditions in the process of sorting and recycling e-waste in *Phone Story*.

Phone Story explicitly frames refusing to play, refusing to accept responsibility, as an ethical impossibility. If the player fails any of the mini-games, *Phone Story* reprimands them by declaring that they failed the objective and that they cannot "pretend [they] are

not complicit" in these acts of harm, suggesting that the game conflates failing a mini-game with refusing to take part in it and the violence it represents. Failing does not lead to a conventional game over screen indicating that the game has ended. Instead, the only available formal option is to "Try Again," a reminder that there is no possibility of denying complicity by refusing to play since the player is already complicit in the very act of owning the device on which *Phone Story* is running. Even if the game itself does not provide an internal mechanism for quitting, the player can choose to exit *Phone Story* by accessing the device's operating system. As one reviewer on the Google Play Store writes, however, "You realise you can quit anytime but for the people depicted in this game, there is no quit for them" (A Google User-B). This review underscores that playing *Phone Story*, and consuming the devices that it runs on, comes at the price of harm to subjects who may be incapable of opting out of their involvement with mobile phone production.

Phone Story, by framing the action of the game in the player's world, asks the player to dwell and care for the world they live in, accepting responsibility for the harm the production of phones enacts. The game highlights the connections that the player needs to trace from their digital games to become responsible for the forms of ecological and social harm in which they are complicit, by providing information about the relationships among military violence and coltan mining, labor conditions and mass manufacture, and environmental pollution and e-waste recycling. To encourage this process of dwelling further, the game's official website, www.phonestory.org, presents a free web version of *Phone Story* as well as more detailed information regarding the political and ecological issues surrounding digital devices and media coverage of *Phone Story.* Molleindustria also proposes possible interventions, ways to do otherwise, in coltan mining, factory labor, e-waste recycling, and, planned obsolescence: the major driving mechanism for the devastating life cycle of mobile phones. Regarding harsh factory labor conditions, for example, the *Phone Story* website declares that "workers can organize internationally to fight against the violation of trade union rights and to promote freedom of association and collective bargaining as a universal human right," providing a link to the International Trade Union Confederation's (ITUC) profile on China and other resources to educate players ("Phone Story - Suicides"). For their part to be more responsible, Molleindustria has stated that they donate all app revenue to "organizations that are fighting corporate abuses" ("Phone Story - Android/Iphone Game by Molleindustria").

As an independently-developed game eschewing commercial profits in favor of drawing attention to many of the costs of having fun playing and using digital devices, *Phone Story* provides a simple play style, a very short playthrough, and an unrelenting didactic tone in order to prioritize its political objectives over simply having fun. For some players, however, this approach to decenter fun was poorly received as they were unable to evaluate *Phone Story* outside of a consumer framework of commercial value and return. Johnny Prencipe commented, "Awful Repetitive gameplay, too short, glitchy. Definitely not worth money" (Johnny Prencipe). gannon minton, similarly, finds the game as a purchased commodity deeply unsatisfying. Their review begins emphatically

with "DO NOT GET THIS GAME!" before explaining how they feel that the game is not worth any amount of money or time: "The game is 1.00$ [sic] exact, and it's the worst 1.00$ [sic] I've spent in a while. The game is short. [...] In my opinion I wouldn't get it if I had the choice to redo my last 10 minutes" (gannon minton). gannon minton's expression of intense regret, in particular, underscores the dominant commercial logics of fun, fun in terms of the intensity and duration of interactive engagement, as the ultimate desired result of purchasing and playing games for many players.

In its short gameplay, *Phone Story* as a game of environmental responsibility directly questions the various costs of mobile phones. While acknowledging that there is "a good cause" to Molleindustria's game, gannon minton's review attempts to undermine *Phone Story*'s political project itself: "The game itself has a good cause. To raise awareness about what's going on in the electronic business. But how did they get the message out? Electronically" (gannon minton). In creating a digital game in order to critique the current system digital phone production, however, *Phone Story* aims not simply to educate players but to implicate players quickly in the act of eco-criminality, holding players accountable immediately by catching them red-handed.

For some players, their experience with *Phone Story* tasked them to think critically regarding digital phone production, demonstrating that they engaged with the game as a form of ethical gameplay. As Sicart argues, ethical gameplay is reflexive play that investigates "its purpose, meaning, and impact" (29). One player, engaging in such reflection, admits, "It wont [sic] stop me from using my current phone because well... It is too late BUT I doubt I will every [sic] buy a new phone again," suggesting future reluctance to participate eagerly in the conventional cycle of forced obsolescence and consumption (A Google User-A). Another player writes, "While it won't make me not want the next greatest thing to come out of phoneland [...] We can't keep making devices at this pace without having serious ramifications on human life as well as the environment" (A Google User-C). For both of these players, *Phone Story* does not convince them, nor enable them, to opt out entirely of the violence and harm that they recognize. But the game does prompt them to assess the costs of owning digital devices within current logics of commercial production and consider alternative ways to engage with them. Such responses align with comments from Paolo Perdicini, the game's designer, that with *Phone Story* "we don't want people to stop buying smartphones [...] but maybe we can make a little contribution in terms of shifting the perception of technological lust from cool to not-that-cool. This happened before with fur coats, diamonds, cigarettes and SUVs" (Hick). *Phone Story*, rather than expecting players to give up mobile phones entirely, tasks players to consider how their fun, their conventional enjoyment of digital devices, is predicated on labors and harm enacted elsewhere and, through the game's website, explores how to reduce those labors and that harm.

Conclusion

Representing digital devices themselves as tools of eco-criminality enables both *Little Inferno* and *Phone Story* to interrogate the environmental harm of having fun with digital games, rendering players complicit in harm and encouraging them to be responsible and do otherwise. Whether suggesting the need to investigate normally mystified ecological damage or proposing specific alternatives for intervening in ongoing destructive processes, games like *Little Inferno* and *Phone Story* provide possible options for acting on the environmental responsibility players may adopt from playing them. As the previous discussions of player responses to both games demonstrate, however, engaging with environmental responsibility, like all ethical gameplay, "is not experienced by all players but can be traced back to specific elements of the design of the game" (Sicart 24). *Little Inferno*, in embracing the fun of burning fuels to parody it, risks players fixating on that fun at the expense of engaging with environmental responsibility. *Phone Story*, on the other hand, by refusing to be inconsequentially fun through short and simple gameplay, risks players fixating on its perceived failures within a dominant framework of commercial fun despite the game's clear explanation of player complicity in the ecological and social harm of owning mobile phones. While no amount of game design can ensure that all players will embrace environmental responsibility, games of environmental responsibility, addressing that game technologies and the act of playing games itself are ecologically harmful, underscore that having fun is neither without cost nor without responsibility.

To address critically the fun of playing digital games and the harm that fun entails, games of environmental responsibility must challenge dominant logics of fun not only by revealing that fun is ecologically costly but also by investigating what constitutes fun, for whom, and whether fun is ultimately desirable. This is particularly important if conventional understandings of fun are both what can draw players to games of environmental responsibility as well as what can operate as a means of domestication within crisis that runs counter to the potential to dwell and take responsibility for ecological harm. Games of environmental responsibility must consider alternatives to the conventional fun of digital games, to allow players to contest the primacy of fun above all else and explore how to have fun more responsibility, which may require accepting that there needs to be less fun overall. Such games must champion dwelling over fun by showing how the games themselves enact material harm in the world. Digital games seeking to encourage environmental responsibility should connect players to other players, to information, to resources, and to proposals for recognizing blame, for accepting responsibility, for providing care, and for doing otherwise in light of and even in lieu of the mere fun of playing them.

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